

**SOLID BUFFER RODS IN HIGH TEMPERATURE HEAT EXCHANGER**

**ABSTRACT OF THE DISCLOSURE**

5           A heat exchanger for transferring energy from a second fluid to a first  
fluid has a plurality of tubes to carry one of the fluids and a layer of thermal  
buffer members on one side of the tubes to act as a buffer to reduce high  
thermal stresses that may be caused by global temperature patterns and  
localized high gradients that occur in system transients such as start up and  
10 shutdown. Conventional heat exchangers often have a short lifespan due to  
high thermal stresses acting on the core of the heat exchanger. The heat  
exchanger uses the thermal buffer members as an increased thermal mass to  
cause the temperature of the heat exchanger core to change in a more gradual  
manner, thereby reducing thermal stresses.